



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/568,836

02/17/2006

Bernardus Hendrikus Hendriks

NL030964

8924

24737

7590

04/28/2009

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT

PAPER NUMBER

2872

MAIL DATE

DELIVERY MODE

04/28/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,836	<b>Applicant(s)</b> HENDRIKS ET AL.	
	<b>Examiner</b> JOSHUA L. PRITCHETT	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 5 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is in response to Request for Continued Examination filed March 16, 2009 and Amendment filed February 26, 2009. Applicant amended claims 1-12.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 11 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Nishioka (US 6,626,532) in view of Tokoyoda (US 2003/0161044).

Regarding claims 1 and 12, Nishioka teaches an optical system comprising a diffraction element (219) formed of a substantially rigid first material having a first refractive index (Fig. 55) the diffraction element having a first plurality of grooves at a first interface of the diffraction element with a second material (218) having a second refractive index (Fig. 55) a second, different, plurality of grooves (Fig. 55) at a second, different, interface of the diffraction element with a third material (216) having a third refractive index wherein the first and second pluralities of grooves are aligned with respect to each other such that a combined diffractive effect is achieved (Fig. 55) characterized in that the third material is a liquid (col. 22 lines 55-60).

Art Unit: 2872

Nishioka lacks reference to the second grooves being differently proportioned. Tokoyoda teaches the use of grooves with different heights (Fig. 1A). Tokoyoda further teaches width of the first plurality of grooves vary from an edge to a center of the diffractive element (Figs. 5A-5G). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Nishioka reference include the different height grooves of Tokoyoda for the purpose of correcting chromatic aberrations (Tokoyoda abstract).

Regarding claim 6, Nishioka teaches the first plurality and second plurality of grooves are arranged concentrically about an optical axis (Fig. 12).

Regarding claim 7, Nishioka teaches widths of the coinciding pairs are substantially the same, the widths being in a direction perpendicular to the optical axis (Fig. 55).

Regarding claim 8, Nishioka teaches the second material has a given optical dispersion and the third material as a different optical dispersion (inherent, the materials are different and therefore would have different optical properties).

Regarding claim 11, Nishioka teaches the system is arranged to modify a configuration of the third material using electrowetting forces (col. 22 lines 55-65).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishioka (US 6,626,532) in view of Tokoyoda (US 2003/0161044) as applied to claim 1 above further in view of Applicant Admitted Prior Art (AAPA).

Nishioka in combination with Tokoyoda teaches the invention as claimed but lacks reference to blazing and different depths. AAPA teaches the use of blazing (page 2 lines 10-15) and grooves with different depths (page 2 lines 10-15). It would have been obvious to one of

Art Unit: 2872

ordinary skill in the art at the time the invention was made to have the Nishioka in combination with Tokoyoda invention include the blazing and depths as known in the art for the purpose of reducing radiation flare.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishioka (US 6,626,532) in view of Tokoyoda (US 2003/0161044) as applied to claim 1 above further in view of Gerritsen (US 4,850,682).

Nishioka in combination with Tokoyoda teaches the invention as claimed but lacks reference to the grating material exposed to air. Gerritsen teaches the grating material adjacent the air (Fig. 1A). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Nishioka in combination with Tokoyoda invention include the second material as air as taught by Gerritsen for the purpose of predictably controlling the propagation of light incident on the grating material.

#### *Allowable Subject Matter*

Claims 4 and 5 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, the prior art of record fails to teach or suggest the claimed relationship between the refractive indices of the materials, the depth of the grooves and the wavelength of incident light.

Art Unit: 2872

Claim 5 depends from claim 4 and is allowable for the same reasons.

### ***Response to Arguments***

Applicant's arguments filed February 26, 2009 have been fully considered but they are not persuasive.

Applicant argues the prior art fails to teach or suggest the newly claimed limitations regarding the variation of the groove width from the edge of the diffractive element to the center. Tokoyoda teaches the grooves width varying from the edge to the center of the diffractive element. Figs. 5A-5G show the grooves adjacent the central plateau of Tokoyoda is wider than the grooves adjacent the edges of the diffractive element. The claim language does not require continuous variation or multiple variations. The arguments are therefore not persuasive and the rejection is maintained.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA L. PRITCHETT whose telephone number is (571)272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joshua L Pritchett/  
Primary Examiner  
Art Unit 2872